Installation Instructions

Manufactured Housing Blower Control Box for Electric Furnaces

KMACC0401E14 KMACC0601FE4

NOTE: Read the entire instruction manual before starting the installation.

SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may cause personal injury or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory-authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with the kits or accessories when installing.

Follow all safety codes. Wear safety glasses and work gloves. Use quenching cloth for brazing operations. Have fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions attached to the unit. Consult local building codes and National Electrical Code (NEC) for special requirements.

Recognize safety information. This is the safety-alert symbol ⚠ . When you see this symbol on the unit and in instructions or manuals, be alert to the potential for personal injury.

Understand the signal words DANGER, WARNING, and CAUTION. These words are used with the safety-alert symbol. DANGER identifies the most serious hazards which **will** result in severe personal injury or death. WARNING signifies hazards which **could** result in personal injury or death. CAUTION is used to identify unsafe practices which **would** result in minor personal injury or product and property damage.

⚠ WARNING: Before installing or servicing system, always turn off all power to unit. There may be more than 1 disconnect switch. Turn off accessory heater power if applicable. Electrical shock can cause personal injury or death.

INTRODUCTION

This instruction covers the installation of blower control box kit Part No. KMACC0401E14 and KMACC0601FE4. These kits are designed to add cooling controls to Nordyne/Miller/Intertherm Electric Furnaces using the existing multi-speed furnace blower. These kits will not work with heating-only blowers. These kits are designed for installation with a 4-wire heating/cooling thermostat.

These kits is designed to work with the electric furnaces listed below. When using the existing furnace blower in some applications, the resulting airflow may be too low. A blower change out is recommended in any application which results in less than 350 CFM/12,000 Btuh. Blower packages KMABA03013TE, KMABA04014TE, KMABA05013TE, and KMABA06014TE are available if blower changeout is required.

Kit Part No. KMACC0401E14 is for use with Nordyne/Miller/Intertherm E1EH Electric Furnaces. Kit Part No. KMACC0601FE4 is for use with Nordyne/Miller/Intertherm FEHB, FEBB, and E1EH Electric Furnaces. Refer to Table 1 for kit contents. Refer to the appropriate section for your furnace and control kit.

- Section 1—Installation of Kit Part No. KMACC0401E14 in Nordyne/Miller/Intertherm E1EH Electric Furnaces
- Section 2—Installation of Kit Part No. KMACC0601FE4 in Nordyne/Miller/Intertherm FEHB and FEBB Electric Furnaces

Table 1—Kit Contents

DESCRIPTION	QUANTITY	
	KMACC0401E14	KMACC0601FE4
Control Box	1	1
No. 10 X 1/2-in. Screw	2	2
Accessory Wire Harness	—	2
Installation Instructions	1	1

Form: AG-MACC-01 Cancels: AG-SACC-01, -02 Printed in U.S.A. 5-97 Catalog No. 92-33MA-CC1

SECTION 1—INSTALLATION OF KIT PART NO. KMACC0401E14 IN NORDYNE/MILLER/INTERTHERM E1EH ELECTRIC FURNACES

⚠ **WARNING: For safe operation, it is the responsibility of the installer to assure that this package is installed in accordance with the furnace manufacturer's recommendations, local codes, good trade practices, and these Installation Instructions. Failure to follow this warning may result in property damage, personal injury, or death form hazards such as fire, smoke, soot, electric shock, or carbon monoxide.**

PROCEDURE 1—UNPACK AND INSPECT CONTROL BOX KIT PARTS

1. Remove control box from carton and check for damage. If any damage is visible, do not install. File claim with shipper.

PROCEDURE 2—PREPARE FURNACE

1. Set wall thermostat to lowest setting. Allow furnace to shut off completely.
2. Turn off all electric supplies to furnace.

⚠ **CAUTION: Furnace may be connected to more than 1 power supply.**

3. Remove furnace door.
4. Disconnect the multi-point plug from furnace control panel.

PROCEDURE 3—DETERMINE PROPER BLOWER SPEED

1. Refer to Table 2 and determine proper blower speed for application.
2. Set proper blower speed in control box.

Table 2—Blower Speed Selection for Proper Operation of E1EH Furnaces

HEATING		COOLING	
Furnace Heating (kW)	Heating Speed	**Capacity (Btuh)**	Cooling Speed
10—12	LOW	**24,000**	LOW
15—23	HIGH	**30,000** **36,000**	HIGH

NOTE: Control box is wired for medium speed heating and high speed cooling.

PROCEDURE 4—MOUNT CONTROL BOX ON BLOWER

1. Mount control box base on furnace blower casing where male plug will reach receptacle in furnace control panel using the 2 screws provided in kit. (See Fig. 1.)

NOTE: Make sure wiring harness will plug into furnace control panel with no strain on wiring.

2. Insert control box onto control box base aligning 2 holes in sides of control box and base. (See Fig. 2.)
3. Secure control box to base with 2 screws removed from control box. (See Fig. 2.)

PROCEDURE 5—MODIFY WIRING

1. Plug male multi-point motor plug from existing furnace blower into female plug in control box.
2. Plug male inline plug from control box into high-voltage inline female plug on furnace control panel.
3. Plug male matrix plug from control box into low-voltage matrix female plug on furnace control panel.

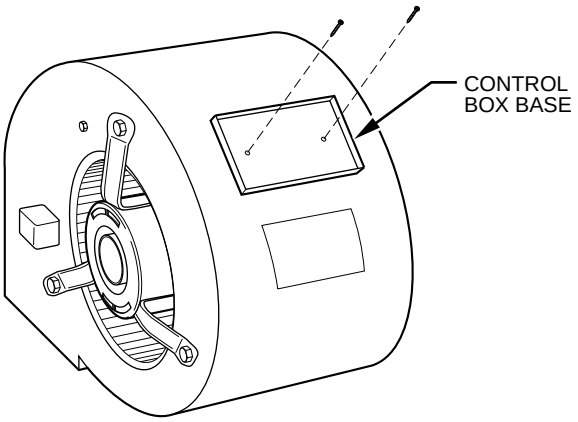

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Fig. 1—Installing Control Box Base on Blower Housing

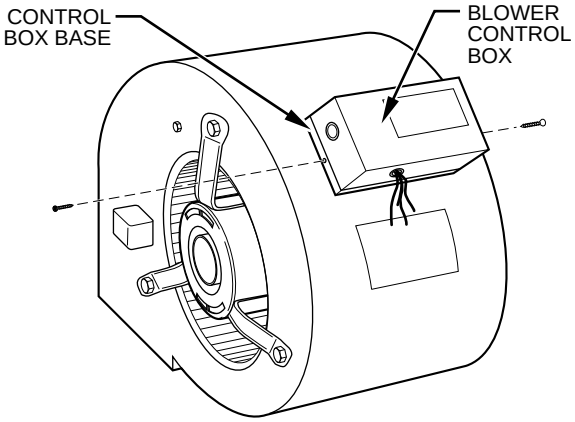

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Fig. 2—Attaching Control Box to Control Box Base

OPERATION INSTRUCTIONS:

A. BLOWER IS SUPPLIED WITH HEATING TERMINAL #5 ON THE BLOWER RELAY JUMPERED TO TERMINAL #2 HIGH SPEED. REMOVE AND INSTALL RED LOW SPEED LEAD ON 010KW AND 12KW FURNANCES.
B. A FILTER IS REQUIRED TO PREVENT LINT AND DUST FROM PLUGGING THE COIL.
C. CHECK FOR CORRECT BLOWER OPERATION ON BOTH HEATING AND COOLING.
D. IF ANY OF THE ORIGINAL WIRE, AS SUPPLIED, MUST BE REPLACED, USE THE SAME OR EQUIVALENT TYPE WIRE.

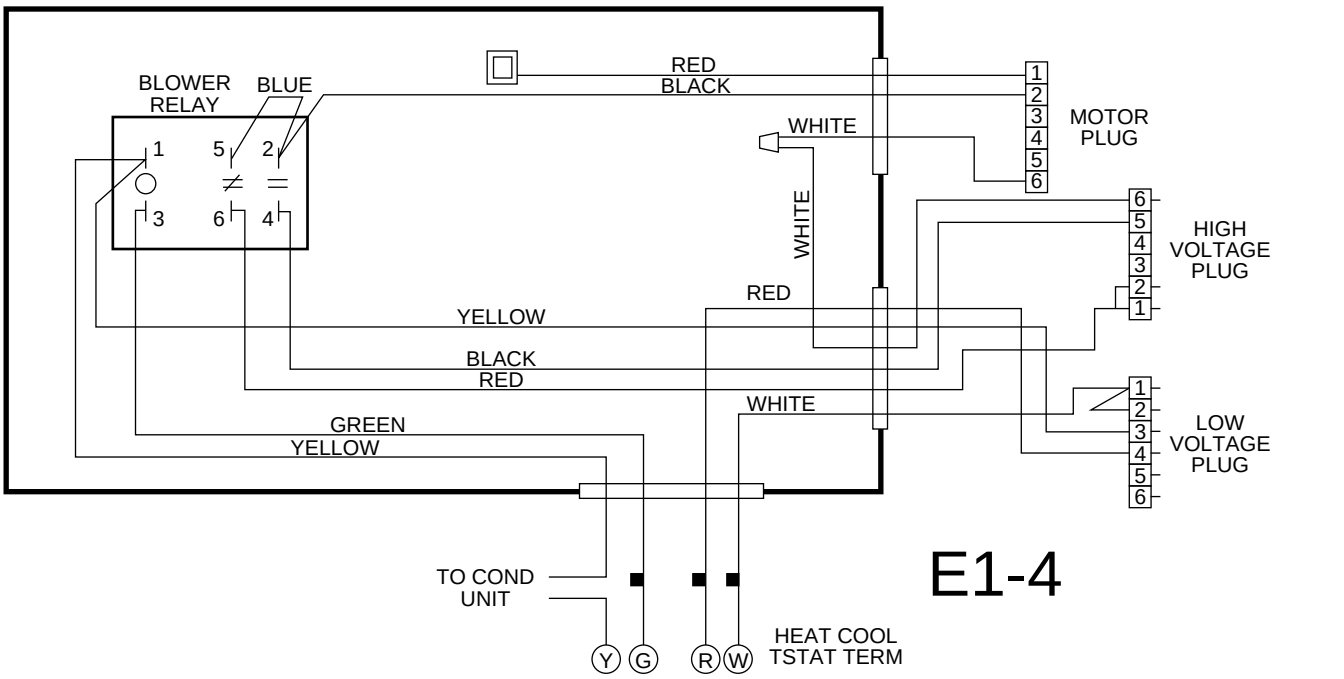

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Fig. 3—Wiring Diagram for KMACC0401E14 Control Box

4. Connect low-voltage wiring per Fig. 3.

PROCEDURE 6—REASSEMBLE FURNACE AND CHECK FURNACE OPERATION

1. Reinstall furnace door.
2. Turn on electric supplies to furnace.
3. Observe system operation in cooling and heating modes to ensure system is in a safe, reliable operating condition.

SECTION 2—INSTALLATION OF KIT PART NO. KMACC0601FE4 IN NORDYNE/MILLER/INTERTHERM FEHB AND FEBB ELECTRIC FURNACES

⚠ WARNING: For safe operation, it is the responsibility of the installer to assure that this package is installed in accordance with the furnace manufacturer's recommendations, local codes, good trade practices, and these Installation Instructions. Failure to follow this warning may result in property damage, personal injury, or death form hazards such as fire, smoke, soot, electric shock, or carbon monoxide.

PROCEDURE 1—UNPACK AND INSPECT CONTROL BOX KIT PARTS

1. Remove control box from carton and check for damage. If any damage is visible, do not install. File claim with shipper.

PROCEDURE 2—PREPARE FURNACE

1. Set wall thermostat to lowest setting. Allow furnace to shut off completely.
2. Turn off all electric supplies to furnace.

⚠ CAUTION: Furnace may be connected to more than 1 power supply. Do not use factory circuit breaker as a disconnect.

3. Remove furnace door.
4. Pull out furnace safety disconnect from furnace control panel where applicable.
5. Disconnect multi-point plug from furnace control panel.

PROCEDURE 3—DETERMINE PROPER BLOWER SPEED

1. Refer to Table 3 and determine proper blower speed for application.
2. Set proper blower speed in control box.

Table 3—Blower Speed Selection for Proper Operation of FEHB and FEBB Furnaces

HEATING		COOLING	
Furnace Heating (kW)	Heating Speed	**Capacity (Btuh)**	Cooling Speed
10—17	LOW	**24,000**	LOW
20—24	HIGH	**30,000** **36,000**	HIGH

NOTE: Control box is wired for medium speed.

PROCEDURE 4—MOUNT CONTROL BOX ON BLOWER

1. Mount control box base on furnace blower casing where male plug will reach receptacle in furnace control panel using the 2 self-tapping screws provided in kit. (See Fig. 4.)

NOTE: Make sure wiring harness will plug into furnace control panel with no strain on wiring.

2. Insert control box onto control box base aligning 2 holes in sides of control box and base. (See Fig. 5.)
3. Secure control box to base with 2 screws provided in loose parts bag. (See Fig. 5.)

PROCEDURE 5—MODIFY WIRING

1. Plug male multi-point motor plug from existing furnace blower into female plug in control box
2. Plug male multi-point plug from control box into female plug on furnace control panel.
3. Connect low-voltage wiring per Fig. 6.

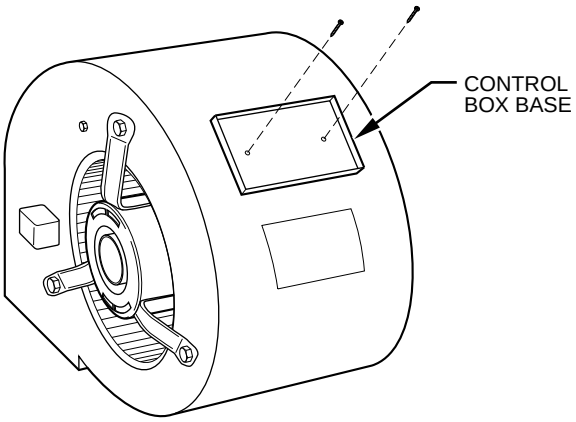

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Fig. 4—Installing Control Box Base on Blower Housing

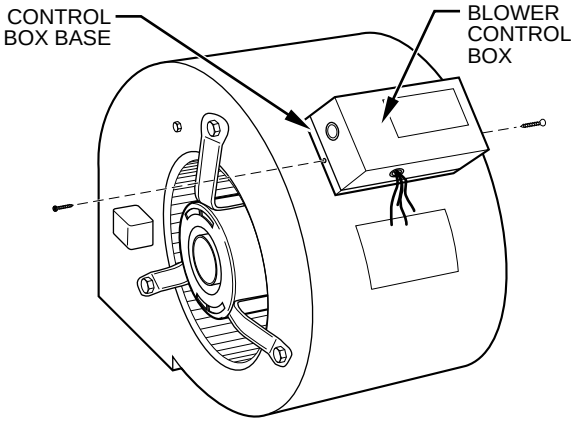

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Fig. 5—Attaching Control Box to Control Box Base

OPERATION INSTRUCTIONS:

A. BLOWER IS SUPPLIED WITH HEATING TERMINAL #5 ON THE BLOWER RELAY CONNECTED TO MED LO SPEED MOTOR LEAD (RED) AND COOLING TERMINAL #2 TO HIGH SPEED MOTOR LEAD (BLACK). CHANGE MOTOR LEADS TO PROVIDE PROPER BLOWER SPEED FOR FURNACE AND COIL CAPACITIES AS RECOMMENDED IN BLOWER SPEED SELECTION CHART. WHEN HEATING AND COOLING SPEEDS ARE THE SAME, CONNECT #5 AND #2 TERMINALS.
B. A FILTER IS REQUIRED TO PREVENT LINT AND DUST FROM PLUGGING THE COIL.
C. CHECK FOR CORRECT BLOWER OPERATION ON BOTH HEATING AND COOLING.
D. IF ANY OF THE ORIGINAL WIRE, AS SUPPLIED, MUST BE REPLACED, USE THE SAME OR EQUIVALENT TYPE WIRE.

FOR NORDYNE FEHB/FEBB/E1EH

HEATING SPEED
FEHB/FEBB 10H-17H HEATING SPD LO
FEHB/FEBB 20H-24H HEATING SPD MED LO
E1EH 10H-12H HEATING SPD LO
E1EH 15H-24H HEATING SPD HI
CONTROL BOX HEATING WIRED FOR MED LO SPD
COIL CAPACITY COOLING SPEED
24,000 BTU/LO - 30/36,000 BTU HI
CONTROL BOX COOLING WIRED FOR HI SPD

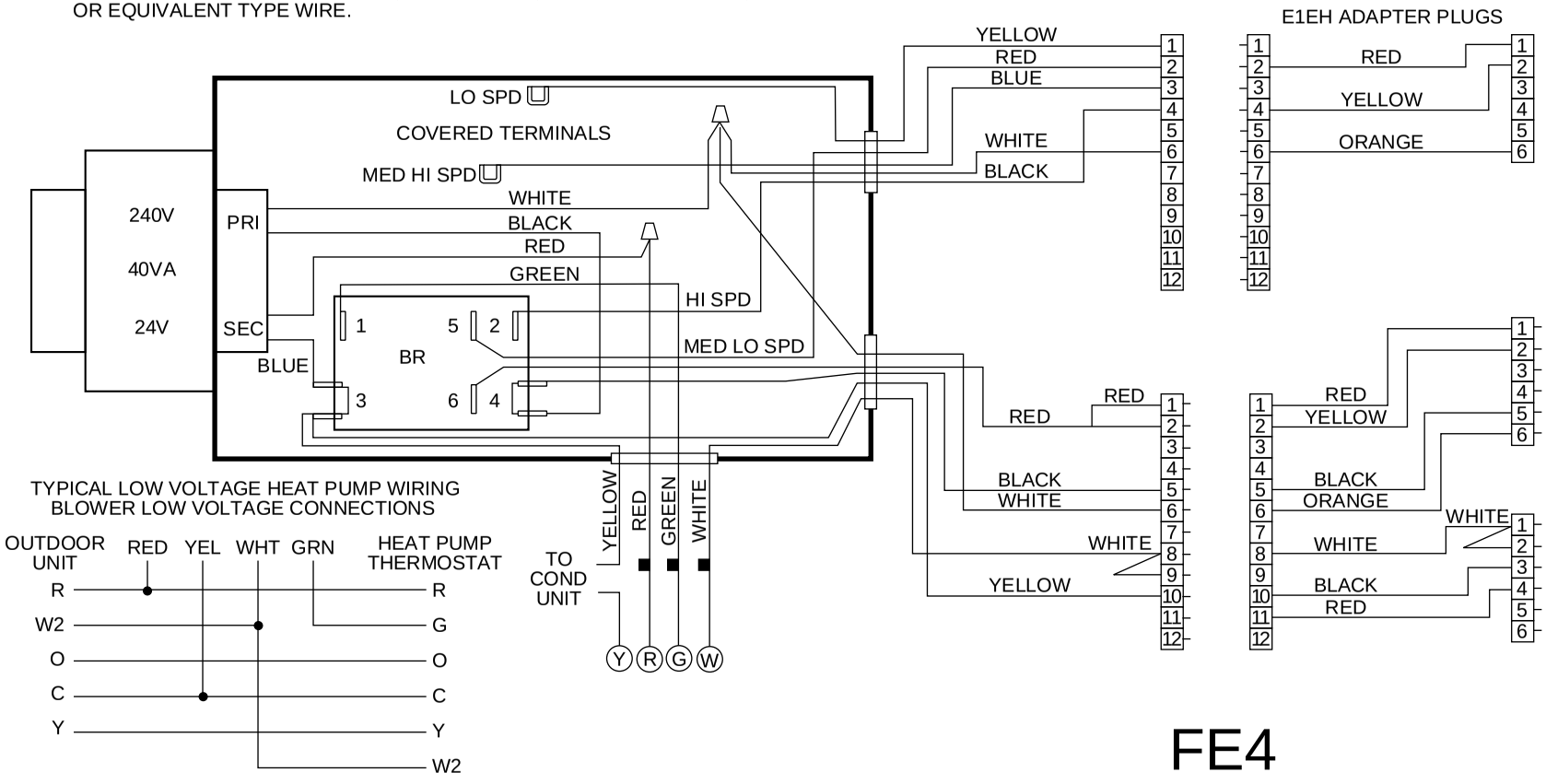

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Fig. 6—Wiring Diagram for KMACC0601FE4 Control Box

PROCEDURE 6—REASSEMBLE FURNACE AND CHECK FURNACE OPERATION

1. Reinstall furnace door.
2. Turn on electric supplies to furnace.
3. Observe system operation in cooling and heating modes to ensure system is in a safe, reliable operating condition.

SERVICE TRAINING

Packaged Service Training programs are an excellent way to increase your knowledge of the equipment discussed in this manual, including:

- Unit Familiarization
- Maintenance
- Installation Overview
- Operating Sequence

A large selection of product, theory, and skills programs is available, using popular video-based formats and materials. All include video and/or slides, plus companion book.

Classroom Service Training plus "hands-on" the products in our labs can mean increased confidence that really pays dividends in faster troubleshooting, fewer callbacks. Course descriptions and schedules are in our catalog.

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